

WHAT IS CLAIMED IS:

1. A method of managing surface images of thin-film devices comprising the steps of:

picking up at least one die region on a wafer surface by image pickup means to produce the whole image of said region; and

storing data of said whole image in memory means so that said data can be output from said memory means.

2. A method according to claim 1, wherein said image pickup means is a two-dimensional imaging device, and said step of picking up includes picking up at least the whole one-die region at a time by said two-dimensional imaging device.

3. A method according to claim 1, wherein said image pickup means is a two-dimensional imaging device, and said step of picking up includes picking up a plurality of portions of said one die region separately by said two-dimensional imaging device, and composing the resulting partial images to produce said whole image.

4. A method according to claim 1, wherein said image pickup means is a one-dimensional imaging device, and said step of picking up includes picking up a plurality of portions of said one die region separately by said one-dimensional imaging device, and composing the resulting partial images to produce said whole image.

5. A method according to claim 1, further comprising the steps of:

picking up a desired portion of said one die region to produce a detailed image of said desired portion; and

displaying said detailed image and said whole image together by display means so that these images can be observed at a time.

6. A method according to claim 5, wherein said detailed image and said whole image are magnified or reduced at a desired magnifying power so that they can be displayed in a magnified or reduced form.

7. A method according to claim 1, wherein information of particle obtained separately without using said step of picking up can be output together with said whole image.

8. A method according to claim 1, wherein information of film thickness obtained separately without using said step of picking up can be output together with said whole image.

9. A method according to claim 1, wherein said whole image or said partial image is subjected to image processing so that the image obtained by said processing can be output.

10. A method according to claim 9, wherein said image processing extracts a proposed region of film thickness measurement point.

11. A method according to claim 9, wherein said

10054274.011002

image processing detects a film thickness distribution.

12. A method according to claim 1, wherein desired information is extracted by comparing said whole image and design information.

13. A method according to claim 1, wherein said whole image stored in said memory means is searched for under a proper search condition, and the result of said searching can be output.

14. A managing apparatus for surface image of thin-film device comprising:

image pickup means for picking up at least one die region on a wafer surface; and

memory means for storing data of a whole image of said region picked up by said image pickup means.

15. A managing apparatus according to claim 14, further comprising:

display means for displaying said whole image stored in said memory means.

16. A managing apparatus according to claim 15, further comprising:

image pickup means for picking up a desired portion of said one die region to produced a detailed image of said portion, wherein said display means displays said detailed image and said whole image together.

17. A management system for surface image of thin-film device comprising:

10054274.011302

image pickup means for picking up at least one die region on a wafer surface;

memory means for storing data of a whole image of said region picked up by said image pickup means; and

a plurality of display means for displaying said whole image stored in said memory means, these display means being connected to said memory means through lines of communication.

18. A method of manufacturing thin-film devices comprising the steps of:

picking up at least one die region on a wafer surface by image pickup means to produce a whole image of said region;

storing data of said whole image in memory means so that said data can be output from said memory means; and

picking up a desired portion of said one die region to produce a detailed image of said portion, said detailed image and said whole image being used to decide if the dies formed on said wafer are nondefective or defective.

19. A manufacturing method according to claim 18, wherein defect tendency is extracted on the basis of said whole image.

20. An apparatus for producing thin-film devices comprising:

image pickup means for picking up at least

20254274.01.302

one die region on a wafer surface to produce a whole image of said region;

memory means for storing data of said whole image; and

image pickup means for picking up a desired portion of said one die region to produce a detailed image of said portion, said detailed image and said whole image being used to decide if the dies formed on said wafer surface are nondefective or defective.

2005-07-01 10:00